

MAPEI Ultralite S1 Quick

Premium, Rapid-Setting, Lightweight Mortar with Polymer for Large and Heavy Tile



DESCRIPTION

MAPEI Ultralite® S1 Quick is a premium-grade, rapid-setting, lightweight, single-component thin-set mortar that can also be used as a large-and-heavy-tile mortar for nonsag applications of large-and-heavy-format tile and stone. MAPEI Ultralite S1 Quick is a FastTrack Ready™ product allowing grouting in 3 to 4 hours. MAPEI's High-Hydrated Cement Technology (HCT™) offers superior drying characteristics for quick curing without contributing to efflorescence. This high-performance, polymer-modified mortar is formulated with Easy Glide Technology™ for ease of application. And thanks to its Ultralite Technology™, MAPEI Ultralite S1 Quick provides twice the coverage of a standard thin-set mortar per pound/kg.

FEATURES AND BENEFITS

- Polymer-enriched for high performance and deformability
- Nonsag formula for wall applications of large and heavy tile and stone
- Nonslump for large-and-heavy-format tile and stone in floor applications
- Smooth and creamy consistency for easy handling and application
- For thicker bond coats from 3/32" to 1/2" (2.5 to 12 mm)
- 25-lb. (11.3-kg) bag provides the same coverage as a 50-lb. (22.7-kg) bag of a standard polymer-modified mortar
- Ready to grout in 3 to 4 hours
- Contributes to green projects that require greater than 15% recycled content

INDUSTRY STANDARDS AND APPROVALS

- ISO 13007: C2TFS1P1
- ANSI: Exceeds A118.4FHT, A118.11 and A118.15FHT requirements
- SCS Green Squared Certified per ANSI A138.1

WHERE TO USE

- Installation of large-and-heavy-format tile and stone, as well as all types and sizes of ceramic/porcelain tile, Saltillo tile, marble, granite and natural stone
- Installation of most types and sizes of thin tiles
- Most interior/exterior residential and commercial installations on floors and walls
- Areas exposed to intermittent water, such as shower walls and floors
- Steam rooms

LIMITATIONS

- Install only at temperatures between 40°F and 95°F (4°C and 35°C).
- Do not use for moisture-sensitive stone (green marble, some limestone and some granite), agglomerate tiles, or resin-backed tiles. Instead, use suitable epoxy or urethane adhesives. See the respective Technical Data Sheets for details.
- For light-colored and translucent stone, a white mortar is recommended.
- Do not use over dimensionally unstable substrates such as hardwood flooring, oriented strand board (OSB), substrates containing asbestos, or metal. See the "Suitable Substrates" section below.
- To use directly over gypsum-based patching or leveling substrates, apply a suitable primer/sealer before use. See the technical bulletin "Tiling over gypsum" in the Tile & Stone Installation Systems section of MAPEI's Website.
- Do not use for installations subjected to water immersion, such as pools and spas.
- Installation of dimensionally weak stone (limestone and travertine) is limited to thin-set applications only.
- Not recommended for areas subject to severe freeze/thaw conditions. For the best performance, use a MAPEI mortar system with a liquid latex additive.
- Large-and-heavy-tile mortars are not designed to correct uneven floors. Substrates must be flat and level (according to substrate flatness requirements in ANSI A108.02) before the installation of large-format tile.

SUITABLE SUBSTRATES

- Concrete (cured at least 28 days)
- Masonry cement block, brick, cement mortar beds, render coats and leveling coats
- Cement backer units (CBUs) – see manufacturer's installation guidelines
- Gypsum wallboard and plaster – interior walls in dry areas only (priming may be required). See MAPEI's "Surface preparation requirements" reference guide in the Tile & Stone Installation Systems section of MAPEI's Website.
- Plywood underlayments must be a Group 1 exterior-grade plywood CC-plugged or better, conforming to APA classification and U.S. Product Standard PS 1-95 or a "SELECT" or (SEL-TF) CANPLY classified exterior-grade plywood conforming to CSA-0121 standard for Douglas fir for direct-bond applications (interior, residential and light commercial floors and countertops in dry conditions only).

- Vinyl composition tile (VCT) and cutback residue (interior only)
- Existing ceramic and porcelain tile, quarry tile, cement terrazzo and pavers (interior in dry conditions only)
- MAPEI waterproofing, crack-isolation, sound-reduction and uncoupling membranes

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

SURFACE PREPARATION

- Substrates must be structurally sound, stable, dry, clean and free of any substance or condition that may reduce or prevent proper adhesion.
- Substrates to receive thin porcelain tiles must be perfectly flat. When installing thin-body porcelain tile, consult the recommendations regarding surface preparation, trowel selection and mechanical edge-leveling systems in MAPEI's reference guides for thin-body porcelain tile 3 to 6 mm thick for walls, and 4.5 to 6 mm thick for floors. These reference guides can be found in the Tile & Stone Installation Systems section of MAPEI's Website.
- See the "Surface preparation requirements" reference guide in the Tile & Stone Installation Systems section of MAPEI's Website.

MIXING

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

1. Mix according to the appropriate mixing ratio below.
 - a. For thin-set applications: Into a clean mixing container, pour about 4-3/4 U.S. qts. (4.50 L) of clean, potable water. Gradually add 25 lbs. (11.3 kg) of powder while slowly mixing for at least 1 minute. Adjust the consistency with water, adding up to an additional 1/2 U.S. qt. (473 mL) as needed. Do not overwater. Mix again for 2 minutes.
 - b. For large-and-heavy-tile and nonsag wall applications: Into a clean mixing container, pour about 4-1/4 U.S. qts. (4.02 L) of clean, potable water. Gradually add 25 lbs. (11.3 kg) of powder while slowly mixing for at least 1 minute. Adjust the consistency with water, adding up to an additional 3/4 U.S. qt. (710 mL) as needed, without overwatering. Mix again for 2 minutes.
2. Into a clean mixing container, pour about 4-1/4 U.S. qts. (4.02 L) of clean, potable water. Gradually add 25 lbs. (11.3 kg) of powder while slowly mixing for at least 1 minute. Adjust the consistency with water, adding up to an additional 3/4 U.S. qt. (710 mL) as needed, without overwatering. Mix again for 2 minutes.
3. Use a low-speed mixing drill (at about 300 rpm), with an angled cross-blade mixer or spiral mixer. Mix thoroughly until mixture becomes a smooth, homogenous, lump-free paste. Avoid prolonged mixing.
4. Do not let the mixture stand ("slake"). Spread it immediately.
5. If mixture becomes heavy or stiff, remix it without adding more liquid.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. Choose a notched trowel (see the "Approximate Coverage" chart below) with sufficient depth to achieve greater than 80% mortar contact to both the tile and substrate for all interior applications, and greater than

- 95% for exterior installations and wet applications. It may be necessary to back-butter the tile in order to meet these requirements. (Refer to ANSI A108.5 specifications and TCNA handbook guidelines.)
2. With pressure, apply a coat by using the trowel’s flat side to key mortar into the substrate.
 3. Apply mortar to the substrate (and, if applying thin tile, to the back of the tile), combing it with the trowel’s notched side in a single direction parallel to the tile’s shortest dimension. If thin tile is being installed, it should be placed so that the troweled ridges on its back are oriented in the same parallel direction as the trowel ridges on the substrate.
 4. Spread only as much mortar as can be tiled before the product skins over. Open time can vary with jobsite conditions.
 5. Place the tiles firmly into the wet mortar. Push the tiles back and forth in a direction perpendicular to trowel lines, to collapse the mortar ridges and help achieve maximum coverage. Ensure proper contact between the mortar, tile and substrate by periodically lifting a few tiles to check for acceptable coverage.
 6. Remove excess mortar from the joint areas so that at least 2/3 of the tile depth is available for grouting (see ANSI A108.10 guidelines).

EXPANSION AND CONTROL JOINTS

- Provide for expansion and control joints as specified per TCNA Method EJ171 or TTMAC Specification Guide 09 30 00, Detail 301MJ. Do not cover expansion joints with mortar.

CLEANUP

- Clean tools and tile while the mortar is fresh, using only water.

PROTECTION

- Protect the installation from foot traffic for 3 to 4 hours before grouting.
- Protect the installation from light traffic for 6 hours, from heavy traffic for 24 hours, and from frost and rain for 7 days.

ISO 13007 Classification

Classification Code	Classification Requirement
C2 (cementitious, improved adhesion)	≥ 145 psi (1 MPa) after standard aging, heat aging, water immersion and freeze/thaw cycles
T (slip resistance)	≤ 0.019" (0.5 mm)
F (fast-setting)	≥ 72.5 psi (0.5 MPa) at 6 hours
S1 (normal deformation of mortar)	≥ 0.1" (2.5 mm)
P1 (normal adhesion to plywood)	≥ 72.5 psi (0.5 MPa)

ANSI Specifications*

Test Method	Specification Standard	Test Results
ANSI A118.11 – shear strength, quarry tile to plywood	> 150 psi (1.03 MPa) at 28 days	200 to 300 psi (1.38 to 2.07 MPa)
ANSI A118.15 – shear strength, impervious ceramic (porcelain) mosaics	> 400 psi (2.76 MPa) at 28 days	430 to 550 psi (2.96 to 3.79 MPa)
ANSI A118.15 – shear strength, glazed wall tile	> 450 psi (3.10 MPa) at 7 days	450 to 550 psi (3.10 to 3.79 MPa)
ANSI A118.15 – shear strength, quarry tile to quarry tile	> 150 psi (1.03 MPa) at 28 days	400 to 500 psi (2.76 to 3.45 MPa)
ANSI A118.15F – shear strength, impervious ceramic (porcelain) mosaics	> 50 psi (0.34 MPa) at 4 hours	Pass
ANSI A118.15H – mortar for large and heavy tile	ASTM C627 Robinson Floor Test Lippage change < 1/64" (0.4 mm)	Pass
ANSI A118.15T – sag on vertical surfaces	< 0.02 in. (0.5 mm) at 20 minutes	Pass

* Anything that meets A118.15 by definition exceeds A118.4.

Application Properties

at 73°F (23°C) and 50% relative humidity

Open time**	10 to 20 minutes
Pot life**	30 minutes
Time before grouting**	3 to 4 hours
VOC content	0 g per L
Application temperature range	40°F to 95°F (4°C to 35°C)
Embedded thickness range	3/32" to 1/2" (2.5 to 12 mm)

** Actual open time, pot life and time before grouting vary based on jobsite conditions.

Approximate Coverage***
per 25 lbs. (11.3 kg)

Water to Add	Typical Trowel	Coverage
Thin-Set Applications		
4-3/4 to 5-1/4 U.S. qts. (4.50 to 4.97 L)	1/4" x 1/4" x 1/4" (6 x 6 x 6 mm), square-notch	75 to 90 sq. ft. (6.97 to 8.36 m ²)
	1/4" x 3/8" x 1/4" (6 x 10 x 6 mm), square-notch	55 to 65 sq. ft. (5.11 to 6.04 m ²)
Large-and-Heavy-Tile and Nonsag Wall Applications		
4-1/4 to 5 U.S. qts. (4.02 to 4.73 L)	1/4" x 1/4" x 1/4" (6 x 6 x 6 mm), square-notch	75 to 90 sq. ft. (6.97 to 8.36 m ²)
	1/4" x 3/8" x 1/4" (6 x 10 x 6 mm), square-notch	55 to 65 sq. ft. (5.11 to 6.04 m ²)
	1/2" x 1/2" x 1/2" (12 x 12 x 12 mm), square-notch	38 to 45 sq. ft. (3.53 to 4.18 m ²)
	3/4" x 9/16" x 3/8" (19 x 14 x 10 mm), U-notch	25 to 30 sq. ft. (2.32 to 2.79 m ²)

*** Trowel dimensions are width/depth/space. Coverage shown is for estimating purposes only. Actual coverage will vary according to substrate profile and tile type.

Shelf Life and Product Characteristics

Shelf life	1 year when stored in original, unopened packaging at 73°F (23°C)
Colors	Gray; white

Packaging

Size and Color
Bag: 25 lbs. (11.3 kg), gray
Bag: 25 lbs. (11.3 kg), white

RELATED DOCUMENTS

- Reference guide: "Surface preparation requirements" for tile and stone installation systems[†]
- Technical bulletin: "Tiling over gypsum"[†]

[†] At www.mapei.com

ADDITIONAL INFORMATION

Refer to the Safety Data Sheet (SDS) for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA).

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement nor replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

CONTACT INFORMATION

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Edition Date: March 20, 2025 MK 3000037 (24-3586)

For the most current product data and BEST-BACKEDSM warranty information,
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